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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/648,540	08/26/2003	Jiawen Dong	134717-1	4671	
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CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH			HUSON, MONICA A		
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	•		1732		

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)	
	10/648,540	DONG ET AL.	
Office Action Summary	Examiner	Art Unit	
	Monica A. Huson	1732	
The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet with th	e correspondence address	
A SHORTENED STATUTORY PERIOD FOR REPL WHICHEVER IS LONGER, FROM THE MAILING D. - Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period Failure to reply within the set or extended period for reply will, by statut Any reply received by the Office later than three months after the mailine earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNICAT 136(a). In no event, however, may a reply b will apply and will expire SIX (6) MONTHS f e, cause the application to become ABANDO	ION. e timely filed rom the mailing date of this communic DNED (35 U.S.C. § 133).	
Status			
 1) Responsive to communication(s) filed on 26 A 2a) This action is FINAL. 2b) This 3) Since this application is in condition for allowed closed in accordance with the practice under A 	s action is non-final. ince except for formal matters,	•	ts is
Disposition of Claims			
4) Claim(s) <u>1-32</u> is/are pending in the application 4a) Of the above claim(s) is/are withdra 5) Claim(s) is/are allowed. 6) Claim(s) <u>1-32</u> is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/o	wn from consideration.		
Application Papers			
 9) ☐ The specification is objected to by the Examine 10) ☐ The drawing(s) filed on 26 August 2003 is/are: Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) ☐ The oath or declaration is objected to by the Examine 11. 	a)⊠ accepted or b)⊡ objected drawing(s) be held in abeyance. tion is required if the drawing(s) is	See 37 CFR 1.85(a). objected to. See 37 CFR 1.12	• •
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority document 2. Certified copies of the priority document 3. Copies of the certified copies of the priority application from the International Burea * See the attached detailed Office action for a list	ts have been received. ts have been received in Applic crity documents have been rece u (PCT Rule 17.2(a)).	cation No sived in this National Stage	
Attachment(s) 1) ⊠ Notice of References Cited (PTO-892) 2) □ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) ⊠ Information Disclosure Ștatement(s) (PTO-1449 or PTO/SB/08)	4) ☐ Interview Summ Paper No(s)/Mai 5) ☐ Notice of Inform	ary (PTO-413) I Date al Patent Application (PTO-152)	
Paper No(s)/Mail Date 112603 , 072205 , 042905 , 0			

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosato's Injection Molding Handbook (3rd ed.). Regarding Claim 1, Rosato shows that it is known to carry out a method of molding an article, comprising injection molding a polymeric material at a melt temperature of about 330 to 370°C (Table 4-8) into a mold having a mold temperature of about 90 to about 130°C (Table 4-8) and a clamp tonnage of about 12 to about 35 tons to form the article (Page 77-78).

Regarding Claim 4, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the melt temperature is of about 340 to about 360°C (Figure 4-8).

Regarding Claim 5, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the mold temperature is of about 100 to about 120°C (Figure 4-8).

Regarding Claim 6, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the clamp tonnage is of about 15 to about 30 tons (Page 77-78).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 15, 16, 18-21, 24, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, in view of Toshihiko et al. (JP 10-306268).

Regarding Claim 2, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show a radial tilt change. Toshihiko et al., hereafter "Toshihiko," show that it is known to carry out a method wherein a disk assembly fabricated from the disk exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to about 0.35 degree (Para. 0008; It is noted that the phrase "measured at a radius of 55 millimeters" is seen as only indicating the radius of the disk, which does not have a manipulative effect on the stepwise limitations of the method claim.) Toshihiko and Rosato are combinable because they are concerned with a similar technical field, namely, methods of injection molding articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Toshihiko's radial tilt change value as a parameter of Rosato's molding process in order to accurately form an article that must meet strict end-use specifications.

Regarding Claim 3, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show a radial tilt change. Toshihiko shows that it is known to carry out a method wherein a disk assembly fabricated from the disk exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to about

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0.15 degree (Para. 0008; It is noted that the phrase "measured at a radius of 55 millimeters" is seen as only indicating the radius of the disk, which does not have a manipulative effect on the stepwise limitations of the method claim.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Toshihiko's radial tilt change value as a parameter of Rosato's molding process in order to accurately form an article that must meet strict end-use specifications.

Regarding Claim 4, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not specifically show forming a data storage disk. Toshihiko shows that it is known to form a data storage disk from the molding process (Para 0002). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to form Toshihiko's data storage disk with Rosato's molding method in order to most efficiently form the desired article.

Regarding Claim 5, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not specifically show forming a laminate data storage assembly. Toshihiko shows that it is known to form a laminate data storage assembly from the molding process (Para 0004). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to form Toshihiko's data storage disk with Rosato's molding method in order to most efficiently form the desired article.

Regarding Claim 18, Rosato shows that it is known to carry out a method of molding an article comprising injection molding a polymeric material to form articles according to a molding model comprising molding parameters and molding parameter values (Page 78, 179, 180, , 260, 261). He does not show a radial tilt change. Toshihiko

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shows that it is known to carry out a method including testing disk assemblies fabricated from the disks for radial tilt change, creating an updated molding model based on the molding parameter values that resulted in disk assemblies fabricated from the disks having a radial tilt change within a selected range of values; and repeating the molding, testing, and creating steps to form final disks and a final molding model, wherein disk assemblies fabricated from the final disks exhibit a radial tilt change value after aging of less than or equal to about 0.35 degree (Para 0008; It is noted that Toshihiko's "repeated research" would comprise the claimed steps.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Toshihiko's radial tilt change value as a guiding variable of Rosato's molding process in order to accurately form an article that must meet strict end-use specifications.

Regarding Claim 19, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not show aging his molded articles. Toshihiko shows that it is known to carry out a process wherein the testing comprises aging the disk assemblies at 80°C for 96 hours (Para 0008). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to age Rosato's molded articles for a time according to Toshihiko in order to most effectively gather data with regard to the experimental variable.

Regarding Claim 20, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not show a radial tilt change. Toshihiko shows that it is known to carry out a method wherein a disk assembly fabricated from the disk exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to about 0.35 degree (Para. 0008; It is noted that the phrase "measured at a radius of 55

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millimeters" is seen as only indicating the radius of the disk, which does not have a manipulative effect on the stepwise limitations of the method claim.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Toshihiko's radial tilt change value as a parameter of Rosato's molding process in order to accurately form an article that must meet strict end-use specifications.

Regarding Claim 21, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not show a radial tilt change. Toshihiko shows that it is known to carry out a method wherein a disk assembly fabricated from the disk exhibits a radial tilt change value after 96 hours at 80°C of less than or equal to about 0.15 degree (Para. 0008; It is noted that the phrase "measured at a radius of 55 millimeters" is seen as only indicating the radius of the disk, which does not have a manipulative effect on the stepwise limitations of the method claim.) It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Toshihiko's radial tilt change value as a parameter of Rosato's molding process in order to accurately form an article that must meet strict end-use specifications.

Regarding Claim 24, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, including a method wherein the molding parameters are melt temperature, mold temperature, clamp tonnage, hold pressure, cool time (Pages 60, 78, 179, 180, 260, 261, 283), meeting applicant's claim.

Regarding Claim 31, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not specifically show forming a data storage disk. Toshihiko shows that it is known to form a data storage disk from the molding process (Para 0002). It would have been prima facie obvious to one of ordinary skill in

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the art at the time the invention was made to form Toshihiko's data storage disk with Rosato's molding method in order to most efficiently form the desired article.

Regarding Claim 32, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not specifically show forming a laminate data storage assembly. Toshihiko shows that it is known to form a laminate data storage assembly from the molding process (Para 0004). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to form Toshihiko's data storage disk with Rosato's molding method in order to most efficiently form the desired article.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, in view of Dhar et al. (U.S. Patent 6,221,536).

Regarding Claim 7, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show specific percent feature replication. Dhar et al., hereafter "Dhar," show that it is known to carry out a method wherein the disk exhibits a percent feature replication of greater than or equal to about 90 percent (Column 14, lines 1-4). Dhar and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Dhar's feature replication percentage as a result of Rosato's molding process in order to make a valuable product that accurately represents features from the mold surface.

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Regarding Claim 8, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show specific percent feature replication. Dhar shows that it is known to carry out a method wherein the disk exhibits a percent feature replication of greater than or equal to about 95 percent (Column 14, lines 1-4). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Dhar's feature replication percentage as a result of Rosato's molding process in order to make a valuable product that accurately represents features from the mold surface.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, in view of Singh et al. (U.S. Patent 6,407,200).

Regarding Claim 9, Rosato shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show using a specific polymer. Singh et al., hereafter "Singh," show that it is known to carry out a method wherein the polymeric material comprises polyarylene ether (Column 3, lines 5-6). Singh and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Singh's specific polymer in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Regarding Claim 10, Rosato shows the process as claimed as discussed in the rejection of Claim 9 above, but he does not show using a specific polymeric structure. Singh shows that it is known to carry out a method wherein the polyarylene ether

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comprises the claimed structure (see claim listing) (Column 3, lines 5-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Singh's specific polymeric structure in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato and Singh, further in view of Fortuyn et al. (U.S. Patent 6,306,953). Rosato shows the process as claimed as discussed in the rejection of Claim 9 above, but he does not show using a polymer with a specific viscosity. Fortuyn et al., hereafter "Fortuyn," show that it is known to carry out a method wherein the polyarylene ether has an intrinsic viscosity of about 0.10 to about 0.60 deciliters per gram as measured in chloroform at 25°C (Column 2, lines 41-43). Fortuyn and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a material with Fortuyn's viscosity in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato and Singh, further in view of Allen (U.S. Patent 4,727,093). Rosato shows the process as claimed as discussed in the rejection of Claim 9 above, but he does not show a specific polyalkenyl aromatic. Allen shows that it is known to carry out a process wherein the

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polyalkenyl aromatic contains at least 25% by weight of the claimed structural units (see claim listing) (Column 4, lines 3-23). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Allen's specific polymeric structure in Rosato's molding process in order to obtain an article that meets

exclusive end-use specifications characteristic of the certain polymer.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato and Singh, further in view of Cheung et al. (U.S. Patent 5,872,201). Rosato shows the process as claimed as discussed in the rejection of Claim 9 above, but he does not hsow a specific polyalkenyl aromatic. Cheung et al., hereafter "Cheung," show that it is known to carry out a method wherein the polyalkenyl aromatic is atactic crystal polystyrene (Column 7, lines 37-38). Cheung and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Cheung's specific polymer in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato and Singh, further in view of Adedeji et al. (US PGPub 2002/0137840). Rosato shows the process as claimed as discussed in the rejection of Claim 9 above, but he does not show a specific molding composition. Adedeji et al., hereafter "Adedeji," show that it is known to carry out a method wherein the polyarylene ether is present in the polymeric

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material in an amount of about 40 percent by weight and the polyalkenyl aromatic is present in the polymeric material in amount of about 60 percent by weight based on the total weight of the polyarylene ether and the polyalkenyl aromatic (Para 0014). Adedeji and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Adedeji's specific polymer in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, in view of Karasz et al. (U.S. Patent 5,286,812). Rosato shows that it is known to carry out a method of molding an article, comprising injection molding a polymeric material at a melt temperature of about 330 to 370°C (Table 4-8) into a mold having a mold temperature of about 90 to about 130°C (Table 4-8) and a clamp tonnage of about 12 to about 35 tons to form the article (Page 77-78). Rosato does not show a specific molding material. Karasz et al., hereafter "Karasz," show that it is known to carry out a method wherein the polymeric material comprises poly(2,6-dimethyl-1,4-phenylene oxide) and polystyrene (Column 1, lines 59-65). Karasz and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Karasz's specific material in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain material.

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Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato and Toshihiko, further in view of Ohkawa et al. (U.S. Patent 5,525,645). Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not show testing the articles for percent feature replication. Ohkawa et al., hereafter "Ohkawa," show that it is known to carry out a method comprising testing the disks for percent feature replication; creating an updated molding model based on the mold parameter values that resulted in disks exhibiting a percent feature replication within a selected range of values; and repeating the molding, testing, and creating steps until the final disks exhibit a percent feature replication of greater than or equal to about 90 percent (Column 12, lines 66-67; Column 13, lines 1-11, 45-67; Column 14, lines 1-2). Ohkawa and Rosato are combinable because they are concerned with a similar technical field, namely, methods of molding polymeric articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to follow Ohkawa's testing procedures with Rosato's molding process in order to insure the quality of the molded articles.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato,
Toshihiko and Ohkawa, further in view of Dhar. Rosato shows the process as claimed as
discussed in the rejection of Claim 22 above, but he does not show specific percent
feature replication. Dhar shows that it is known to carry out a method wherein the disk
exhibits a percent feature replication of greater than or equal to about 95 percent (Column
14, lines 1-4). It would have been prima facie obvious to one of ordinary skill in the art

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at the time the invention was made to follow Dhar's feature replication percentage as a result of Rosato's molding process in order to make a valuable product that accurately represents features from the mold surface.

Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato and Toshihiko, further in view of Singh.

Regarding Claims 25 and 26, Rosato shows the process as claimed as discussed in the rejection of Claim 18 above, but he does not show using a specific polymer. Singh shows that it is known to carry out a method wherein the polymeric material comprises polyarylene ether (Column 3, lines 5-6). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Singh's specific polymer in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Regarding Claim 27, Rosato shows the process as claimed as discussed in the rejection of Claim 26 above, but he does not show using a specific polymeric structure. Singh shows that it is known to carry out a method wherein the polyarylene ether comprises the claimed structure (see claim listing) (Column 3, lines 5-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Singh's specific polymeric structure in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

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Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, Toshihiko, and Singh, further in view of Fortuyn. Rosato shows the process as claimed as discussed in the rejection of Claim 26 above, but he does not show using a polymer with a specific viscosity. Fortuyn shows that it is known to carry out a method wherein the polyarylene ether has an intrinsic viscosity of about 0.10 to about 0.60 deciliters per gram as measured in chloroform at 25°C (Column 2, lines 41-43). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a material with Fortuyn's viscosity in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, Toshihiko, and Singh, further in view of Allen. Rosato shows the process as claimed as discussed in the rejection of Claim 26 above, but he does not show a specific polyalkenyl aromatic. Allen shows that it is known to carry out a process wherein the polyalkenyl aromatic contains at least 25% by weight of the claimed structural units (see claim listing) (Column 4, lines 3-23). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Allen's specific polymeric structure in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosato, Toshihiko, and Singh, further in view of Adedeji. Rosato shows the process as claimed

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as discussed in the rejection of Claim 9 above, but he does not show a specific molding composition. Adedeji shows that it is known to carry out a method wherein the polyarylene ether is present in the polymeric material in an amount of about 40 percent by weight and the polyalkenyl aromatic is present in the polymeric material in amount of about 60 percent by weight based on the total weight of the polyarylene ether and the polyalkenyl aromatic (Para 0014). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Adedeji's specific polymer in Rosato's molding process in order to obtain an article that meets exclusive end-use specifications characteristic of the certain polymer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Monica A Huson October 17, 2005

Mauashuson

MICHAEL P. COLAIANNI SUPERVISORY PATENT EXAMINER